



Micro-immunotherapy
International Medical Experience

Micro-immunotherapy & Allergies

Neurodermatitis

Hay fever

Allergic asthma



Halt the allergic march

Watery eyes, a runny nose, itching, mucus and coughing fits are allergic symptoms known by many. In Europe alone, for example, 150 million people suffer from an allergy. These numbers are on the rise: it is estimated that approximately 50% of Europeans will suffer from an allergy by 2025¹.

If an allergy is not detected and treated in time, it can lead to long-term consequences: neurodermatitis in children can develop into allergic rhinitis (hay fever) over the years and into allergic asthma at a later stage. This phenomenon is known as “allergic march” or “progression”. In order to curb this march, the underlying cause of allergy needs to be addressed².

Micro-immunotherapy targets the root of the problem, as it directly addresses the immune system.

What is an allergy?

Our body is constantly in contact with external agents. When we absorb microorganisms or foreign substances through the mucosa (e.g. the nose), the skin or the gastrointestinal tract, the immune system checks whether they pose a threat to the organism or not.

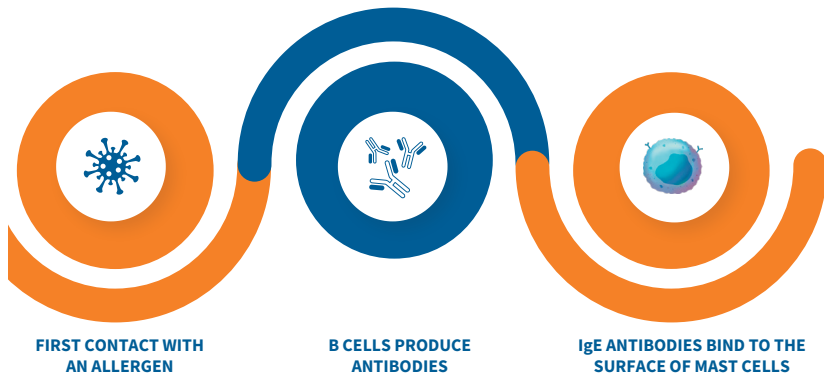
If the check turns out positive, complex defence mechanisms are immediately put in motion to neutralise the disruptive factor. However, the immune system sometimes fails to make the right diagnosis, identifying harmless elements as dangerous. This is the case in allergies: immunity responds with an excessive reaction to generally harmless substances such as weed and tree pollen, mould spores, dust or animal hair, i.e. so-called allergens³.

The term “allergy” is composed of the two Greek words *allos* (=other) and *ergos* (=work, activity). It thus refers to an altered responsiveness of the immune system. In some cases, symptoms are only mild, but they can nevertheless become annoying and affect everyday life.

The stages in an allergic reaction are briefly described below.

First contact (sensitisation)

The first contact with an allergen generally produces no symptoms. A substance is identified as problematic and specific immune cells -B cells- produce antibodies, namely immunoglobulin E (IgE). These antibodies bind to the surface of other immune cells, i.e. mast cells³.



Second contact

On second contact, the allergen binds to the IgE antibodies on the surface of mast cells. As a result, these cells are activated and a defence reaction, i.e. an inflammatory reaction, is triggered. Mast cells release messenger substances like histamine, causing the typical allergic symptoms³.

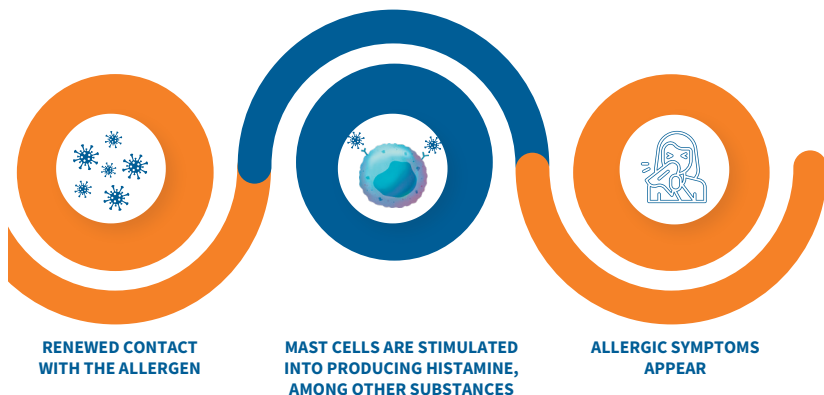


Fig. Simplified scheme of an allergic reaction

Risk factors

Apart from genetic predisposition, there are other factors which play an important role in the onset and development of allergies, such as environmental, lifestyle and dietary changes³.

There is evidence that air pollutants (e.g. soot particles) are involved in allergies as they enhance the effect of airborne allergens⁴. Excessive hygiene and lack of contact with germs during childhood also play an important role in allergies: studies have shown that children growing up on farms are less likely to develop allergies and asthma than children who grow up in urban environments. The risk of allergy may also increase due to an immune imbalance derived from reduced diversity of the gut microbiota⁵. Infections, psychological stress such as depression or anxiety⁶, micronutrient deficiencies, in particular of vitamin D⁷, add to the factors that may favour or worsen allergies.



Fig. 2: Causes / worsening factors of allergies

Immunity, the pivotal player

The modulation of the immune system should be central in the prevention and treatment of allergies, as it allows to restore immune balance and thus reduce the risk of an allergic reaction. A balanced immune system is able to “make the right decisions”, whereby allergens are no longer identified as harmful substances. Micro-immunotherapy provides gentle and sustainable immunomodulation.

Good to know: 80% of the immune system is located in the gut, which can metaphorically be considered as the “root” of the human “plant”. Thereby, it is not surprising that allergies often originate precisely from this organ. Any ongoing strain (e.g. alterations of the gut microbiota) can sooner or later lead to immune dysfunction. Restoring intestinal balance can have a positive effect on the immune system and vice versa.

The micro-immunotherapy approach

Micro-immunotherapy is targeted towards the origin of allergies as it directly communicates with the immune system. It regulates the function of the immune system and trains it to react appropriately without stressing it or forcing it into a specific direction. Through messenger substances (cytokines) in low doses, it downregulates proallergic mechanisms, promoting the balance of the immune system. Thus, micro-immunotherapy is not only suited for the treatment of the symptoms that come along with an allergic reaction, such as itching, burning eyes and skin rashes, but it influences the underlying immune mechanisms involved.

Micro-immunotherapy is a particularly gentle treatment, as it uses low doses of substances that the body already knows and uses itself. This is why it is also popular with children.

In prevention, treatment starts two months before the pollen season; in acute episodes, micro-immunotherapy can be used as a targeted treatment as well. Clinical experience has shown that the duration and intensity of symptoms as well as the use of antiallergic medication can be reduced through micro-immunotherapy.

Micro-immunotherapy formulas are suitable for all age groups, are easily taken sub-

lingually (under the tongue) and well-tolerated given their low doses. They are compatible with other treatment approaches and can be integrated into any prevention and treatment plan.

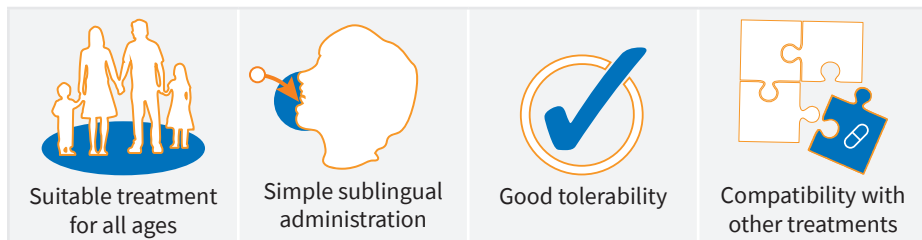


Fig. 3: Benefits of micro-immunotherapy

Scientific publications

A study on a model of pollen allergy showed that micro-immunotherapy has a downregulating effect on various proallergic messenger substances⁸.

Also, a clinical study with 41 patients (aged 6 to 41) suffering from hay fever was conducted during the pollen season; patients were randomly assigned to receive either micro-immunotherapy or placebo. The result of the study was as follows: taking micro-immunotherapy led to a decrease in the use of rescue antiallergic medication (e.g. antihistamines) and in the number of days patients needed to take their antiallergic medication. No side effects were reported by the patients throughout the follow-up period⁹. The study highlights the positive effects and the good tolerability of micro-immunotherapy in the treatment of seasonal allergies.

Conclusion

Micro-immunotherapy regulates the natural function of the immune system through low doses of immune messenger substances. The immune system can thus be trained back to reacting appropriately to internal and external stimuli, curbing the recurrence of allergic reactions as well as the allergic march¹⁰. Early prevention with micro-immunotherapy in preparation for the allergy season is advisable to get through spring comfortably, with as few symptoms as possible.

Find a doctor or therapist trained in micro-immunotherapy!

[www.micro-immunotherapy.com/what-is-micro-immunotherapy/
find-a-healthcare-professional/](http://www.micro-immunotherapy.com/what-is-micro-immunotherapy/find-a-healthcare-professional/)



Literature

1. *European Federation of Allergy and Airways Diseases Patients' Associations. Allergy. 2022. Online: <https://www.efanet.org/inform/patient-evidence/allergy>*
2. Bantz SK, Zhu Z, Zheng T. The Atopic March: Progression from Atopic Dermatitis to Allergic Rhinitis and Asthma. *J Clin Cell Immunol.* 2014;5(2):202.
3. Murphy K, Weaver C. Allergien und allergische Erkrankungen. *Jancway Immunologie.* 2018;783–834.
4. Takano H, Inoue KI. Environmental pollution and allergies. *J Toxicol Pathol.* 2017;30(3):193-199.
5. Riiser A. The human microbiome, asthma, and allergy. *Allergy Asthma Clin Immunol.* 2015;11:35.
6. Harter K, Hammel G, Krabiell L, Linkobr B, Peters A, Schwettmann L, Ring J, Johar H, Ladwig KH, Traidl-Hoffmann C. Different Psychosocial Factors Are Associated with Seasonal and Perennial Allergies in Adults: Cross-Sectional Results of the KORA FF4 Study. *Int Arch Allergy Immunol.* 2019;179(4):262-272.
7. Mirzakhani H, Al-Garawi A, Weiss ST, Litonjua AA. Vitamin D and the development of allergic disease: how important is it?. *Clin Exp Allergy.* 2015;45(1):114-125.
8. Floris I, Chenuet P, Togbe D, Volteau C, Lejeune B. Potential Role of the Micro-Immunotherapy Medicine 2LALERG in the Treatment of Pollen-Induced Allergic Inflammation. *Dose Response.* 2020;18(1):1559325820914092.
9. Van der Brempt X, Cumps J, Capieux E. Efficacité clinique du 2L®ALERG, un nouveau traitement de type immunomodulateur par voie sublinguale dans le rhume des foins : une étude en double insu contre placebo. *Rev Fr Allergol.* 2011;51(4):430-436.
10. Jacques C, Floris I. How an Immune-Factor-Based Formulation of Micro-Immunotherapy Could Interfere with the Physiological Processes Involved in the Atopic March. *International Journal of Molecular Sciences.* 2023; 24(2):1483



Contact us / visit our website:

www.micro-immunotherapy.com

micro-immunotherapy@micro-immunotherapy.com

Follow us:

